The operation of global networks

|  |  |  |
| --- | --- | --- |
| Nodes and LinkagesLinkages are the routes between places while nodes are the hubs that connect multiple places. The industrial age produced physical transport hubs linked by road and rail. While the information age is creating data hubs.The explosion of the internet has created far more nodes and linkages between cities. |  |  |
| Flight pathsFlight volumes between points illustrate the operation of a network and they also indicate volumes of mail. | [https://www.flightradar24.com/-33.89,151.14/7](https://www.flightradar24.com/-33.89%2C151.14/7)<https://upload.wikimedia.org/wikipedia/commons/a/ac/World-airline-routemap-2009.png> |  |
| Shipping routesShipping routes give an indication of global trade volumes. Although they are dominated by bulk transport of resources they do also carry containerized cargo (goods) between markets. | <http://cimsec.org/wp-content/uploads/2014/12/map_strategic_passages.png>http://www.marinetraffic.com/ |  |
| Road and Rail connectionsIn smaller continental areas such as Europe and North America road and rail connections are a significant linkage. However, at a global scale flight and telecommunication are far more important than road and rail.  | [https://www.google.com/maps/@39.4638306,-76.7033443,6z](https://www.google.com/maps/%4039.4638306%2C-76.7033443%2C6z)<http://www.supplychaindigital.com/top10/2511/Top-10-global-rail-networks> |  |
| TelecommunicationsThe volumes of telecommunication traffic are increasing dramatically. As internet communication improves it can replace face to face meetings and social media has an especially large role in cultural exchange. Internet exchange is gradually replacing all other “non-voice transfers”.  | <http://www.submarinecablemap.com><https://en.wikipedia.org/wiki/Internet> |  |